

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/866,335	CARVEY, PHILIP P.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Duc C Ho	2665	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 3-12-05.
2. ☒ The allowed claim(s) is/are 1-48, 51, and 49-52. Renumbered 1-52, respectively.
3. ☒ The drawings filed on 14 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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**DETAILED ACTION*****Reason for Allowance***

1. Regarding claims 1-18, the prior art fails to teach or suggest an interconnection network that comprises a source based virtual network for each of the packet sources, wherein a packet traversing a source based virtual network of a packet source, the packet transitioning into an egress based virtual network of a packet destination, the packet traversing the egress based virtual network to the packet destination, in combination with other limitations, as specified in the independent claim 1.

Regarding claims 19-27, the prior art fails to teach or suggest an interconnection network that comprises a plurality of egress based tunnels fanning into each packet destination over a subtree of routers, each egress based tunnel comprises one or more egress based tunnel segments, each egress based tunnel segment of an egress based tunnel is a logical hop across a different link, in combination with other limitations, as specified in the independent claim 19.

Regarding claims 28-39, the prior art fails to teach or suggest an interconnection network that comprises routers interconnected by links, each router comprising a switch coupled to at least one traffic manager, the switch forwarding packets through source based tunnel segments, the switch forwarding packets through egress based tunnel segments comprising logical hops across links, the egress based tunnel segments corresponding to packet destinations reachable in a number of hops less than the diameter of the interconnected network, in combination with other limitations, as specified in the independent claim 28.

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Regarding claims 40-46, and 52, the prior art fails to teach or suggest a method for preventing tree saturation and deadlock in an interconnection network, that comprises a step communicating a packet from any packet source to any packet destination by traversing a source based virtual network of a packet source, transitioning into an egress based virtual network of a packet destination, and traversing the egress based virtual network to the packet destination, in combination with other limitations, as specified in the independent claims 40, and 52.

Regarding claims 47-51, the prior art fails to teach or suggest a method for preventing tree saturation and deadlock in an interconnection network that comprises a step in which the total number of queues for source based tunnel segments and egress based tunnel segments at each routers being less than the total number of packet destinations of the interconnected network, in combination with other limitations, as specified in the independent claim 47.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Friday from 7:00 am to 3:30 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

A handwritten signature in black ink, appearing to read 'Duc Ho', with a long horizontal stroke extending to the right.

Duc Ho

04-11-05